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GUARD FOR MULTIPLE SECTIONED DOORS

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This invention relates to a guard for multiple sectioned garage doors and particularly to a finger guard for covering the joints between a plurality of interconnected horizontal sections forming the garage door.

Garage doors are often formed of a plurality of horizontal sections which are hinged together on a horizontal axis and mounted for movement between a vertical closure position or a raised horizontal open position. The garage door is movably mounted by suitable roller units in L-shaped tracks mounted to opposite sides of a garage door opening and having a vertical portion and an upper horizontal portion joined by an integral curved portion. Roller units are connected to the door edge and ride in the tracks for guiding of the interconnected sections between the vertical and the horizontal position. As the door moves between the vertical closure position and the raised horizontal open position, the individual sections move about the curved upper portion of the track. In so moving a gap is formed between the sections as the door opens. Similarly, when the door is lowered, the gaps are formed between the sections during the downward movement and then closed together to form a firm and tight junction at the adjacent sections in the totally closed position. The formation and closure of the gap between adjacent sections constitutes a source of substantial danger to surrounding objects and particularly the fingers of the operator as well as other personnel in the area. The gap between adjacent sections is of a sufficient size to readily accommodate an object the size of a person's finger. Further, when the gap is closed, the weight of a door or the like is such that it can not only cause painful and injurious crushing of the fingers but can actually cause a severing of a finger or fingers caught therein. As the garage door is closed, the weight and inertia of the door make it extremely difficult and impractical to instantaneously stop the movement thereof or reverse its direction. Consequently, the danger is unusually substantial in connection with a garage door employing horizontal sections.

Additionally, the joints at interconnecting sections are openings through which dust and other fine dirt and the like can pass.

The present invention is particularly directed to a guard which can be applied to the outer and, if desired, to the inner portions of the sectionalized garage door to cover the adjacent joints or connections in a manner positively preventing the introduction of foreign objects within the gap which occurs during the movement of a door and the like. The guard of the present invention can be installed with a minimum amount of effort and skill and can be readily fabricated of a plastic or other suitable material. Additionally, the present guard is very inconspicuous and aesthetically pleasing such as to be adapted for application to home garages and the like where a pleasing appearance is, of course, practically essential.

In accordance with the present invention, a generally V-shaped outer door section joint cover is provided interconnected to the door preferably through a socket and circular bead construction which permits the opposite edges to pivot therein. The front cover projects laterally from the door and includes a curved top wall which extends laterally forwardly and curves downwardly to provide a deflecting top surface. The curved construction also covers the bottom wall as when viewed from the front. The bottom wall of the front cover is also

curved with a convex cross-section generally extending from the door to the front cover edge where it is integrally formed with the top wall by a relatively thickened and pointed portion. This has been found to provide an unusually satisfactory door guard which will deflect rain and other foreign matter. Additionally, it will readily accommodate the wide gap formed on the front edge of the door sections as it moves between the vertical and the horizontal raised position.

Preferably, a small cover guard is also provided at each of the joints on the inner surface of the door. As the gap formed thereat is relatively small, the inner door guard cover is preferably a small U-shaped member interconnected by corresponding mounting strips on the opposite edges of the adjacent door sections.

The present invention thus provides a simple and readily constructed and installed joint cover for horizontal sectionalized doors and the like which can be mounted without detracting from the appearance of the garage structure.

The drawing furnished herewith illustrates a preferred construction for carrying out the present invention and clearly illustrates the previously discussed features and advantages as well as others which will be clear to those skilled in the art.

In the drawing:

FIG. 1 is a front elevational view of a garage door structure and a fragmentary portion of the adjacent garage;

FIG. 2 is a vertical section taken on line 2—2 of FIG. 1;

FIG. 3 is an enlarged fragmentary end view of a single joint between adjacent garage door sections shown in FIGS. 1 and 2 showing the construction of the present invention;

FIG. 4 is a view similar to FIG. 3 showing the position of the sections and the door guards with the garage door in the raised or partially raised position and showing the gap between the adjacent sections; and

FIG. 5 is an enlarged exploded fragmentary view of portions of the outer guard door unit shown in FIGS. 1–4, inclusive.

Referring to the drawing and particularly to FIG. 1, a front wall 1 of a garage or the like is shown having a double car opening 2. A sectionalized garage door 3 is mounted within the opening 2 and includes four individual horizontal sections 4–7, inclusive, with the lower section numbered 4 and the top section numbered 7. As shown diagrammatically in FIG. 2, the garage door is mounted in the conventional or well known manner by suitable tracks 8 which will be secured to the opposite sides of the opening 2 within the garage. Coupling units 9 interconnect guide wheels 10 which ride in the track 8 to the side edges of the sectionalized door 3 for guiding the door between a raised horizontal position and the lowered vertical position shown in FIGS. 1 and 2. Hinge units, not shown, may form a part of the coupling units 9 for interconnecting of the door sections 4–7, inclusive, at the respective joints 11 to permit the separating of the sections 4–7, as shown in FIG. 4, as they move within the track and particularly about the curved track junction 12. Additional hinges, not shown, may also be provided along the back edge to more adequately support the door.

In accordance with the present invention, a front or outer guard unit 13 covers the seam or joint 11 adjacent each of the connections of the door sections 4–7, inclusive, to positively prevent entrance of foreign matter therebetween during the opening and closing of the door. Additionally, a rear or inner door guard unit 14 is preferably provided at corresponding positions on the inner surface of the door to thereby prevent entrance of foreign